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ORIGINAL

*A REVIEW OF MILK FOODS IN RELATION TO THE DIETETIC AND HYGIENIC LIFE AND GROWTH OF INFANTS WITH REMARKS.

BY J. J. CALDWELL, F. S. Sc., M. D., BALTIMORE, MD.

A paper in relation to my articles published in the Journal American Association, March 18, '99, and in the Med. Times Register, April '99, both on the treatment of gout and rheumatism, wherein I promised in the future to treat upon the foods best adapted for these troubles, also a publication in the Medicus, entitled "Drinking Water." This review maintains. While water is the universal beverage the same can be said of milk, the natural food of man reaching from the cradle to the grave. Hence the claim for absolute purity in absolute quality and quantity. In relation to milk we may continue our quotation from Mother Goose in the following couplet: "Many fishes in the sea; many ships are cast away."

The castaways in the milk business are, or should be, the negligent and indifferent dairymen—yes, criminal dairymen; so are those who produce life giving fluid and ship to our market milk from the poorly conditioned and badly fed cows reared in filthy surroundings, whose scanty supply is suffisticated with the help of the pump and adulterated with abominable compounds and sold to the poor at low prices at the risk of the community's health. It is bad enough to be poor and dwell in poor environments; but it is an outrage upon the community at large that such processes be the nidus of zymotic diseases. What care these indifferent traffickers whether their cattle be in an unfit condition or the milk of sickly cattle prematurely taken from the fresh cows or during diseases or passions from the effects it may produce as long as they are able to collect their illgotten gains. They know not or care not for the Biblical story taught in the experience of Laban and his son-in-law and the strife of Reed's shadows on the drinking water at certain periods, producing the maternal impression (a very far-reaching thought, indeed), "Health is better than wealth."

I order no other as a food for the

*The new company agent for Milk Producing and Consuming Company stands for purity, price. equity and guarantee, wherein every gallon offered to citizens of Baltimore is critically examined before distribution.

invalid as well as the strong, from babyhood to old age, and my reasons are given in the following:

Milk is an opaque white fluid, the secretion of the mammary glands of the highest order of animals, viz., mammals, and is defined in general as the fresh milk of the cow. In Latin it is lac; in French, lait; in Spanish, leche; in Greek, gala, and in German, milch.

It is the universal food for man for his early sustenance, for his puddings and for his toddies. Its consistence a little greater than that of water and has a sp. gr. of 1.030, while that of water is given as 1.

Its color is about the same as that of the emulsion of certain gums as asafoetida and of the white Euphorbia certain plants of the Euphorbia variety and milk weed and the India rubber tree and garden purslain. Milk then is the secretion of certain glands in the female mammal, though instances are known where males have produced milk and given nourishment to infants.

We say mammals to distinguish this class of animals from the oviparous, or such as increase their species by the medium of eggs. Without the milk glands there can be no milk secreted and these glands are but the aggregation of tubules held together by connective and adipose tissue and lined by and reproducing on their delicate lining membrane cells whose province it is to select the materials from the blood and to manufacture them into the lacteal fluid. These tubules exist alike in milk glands of the tiny mother mouse as in the mother elephant. Indeed, any gland may be as perfect in its miniature state as in the mammoth animal, just as we find even more perfect works in the ladies' watch than in our grandfather's clock in the corner, and like most glands the size and the product of secretion increases in proportion to the tax imposed on them.

Many animals, as of the supposed fish kind, were thought to be oviparous, as the whale, the dolphin and the shark, but investigation has shown them to be viviparous and to be endowed with the same means of feeding their young, by the secretion of milk, as in most quadrupeds. I say quadrupeds because as far as we know they are all mammals, and we may go further and say that the mammal may be known as well by the globular shape of its blood corpuscles as by its viviparous nature. An exception, perhaps, may be made in the camel whose blood disks are ovoidal like those of animals which have but a single heart arrangement.

In man and most mammals the blood corpuscle is globular and ranges about the 1-2800 to 1-3000 of an inch in diameter, while the milk corpuscle or globule is far smaller, measuring in the human milk but the 1-25000 to the 1-1500 of the inch. The so-called globules in milk are fat cells.

The quantity of milk given by a cow will vary according to many circumstances over which we have a fair amount of control, the chief of which is the regular supply of suitable food, but this is not all, for it is well known that in Texas, where grass abounds and of the best mustang variety, the cows are the very worst milkers and where it is said half the inhabitants go without butter. Then again, constant feeding on dry food tends to enrich the milk at the expense of its quantity, while a fair milch cow kept on tender grass or clover or soft moist feed, preferably scalded vegetables, cut hay and meal, will yield from 1 1-2 to 4 gallons a day if put to the pail twice a day, and an extra good cow will run up to five gallons if milked three times a day.

Thus, free feeding, plenty of running water and frequent milkings will greatly increase the amount of milk given down by a good cow. It is not the plumpest looking cow which is the best milker, for such animals assimilate the food into fat for the butcher rather than into milk for the dairy, and we often find the ragged scrub cow giving the most milk.

Probably the best milkers are the

Ayreshires, which are bony and of large rugged frames and good feeders, while the Devons and Durhams are better suited for taking on flesh. The little dun-colored Alderney yields less than the other varieties, but her milk consists largely of fat, which we call cream. Any cow, no matter of what stock, if well-watered and well-sheltered, will make a fair milker, and good shelter helps at least one-third, but unless she shows decided marks of a good milch cow she is rarely put to the pail, and stock-raisers know by the broad, deep escutcheon shown in the heifer whether she will pay to keep as a milch cow.

If we slop a cow we will surely get milk in increased quantity, and domestic cows are as sure to look for their slops as the house dog is for his scraps. As milk is mainly water we naturally conjecture that water is its most important element and the adage is very true that no drink gives no milk or very little. We read in Rob Roy that all "hay is flesh" and if grass makes flesh and milk we may say almost that all flesh of mammals is milk in substance, and in sickness we often beg to go back to the first principles and recruit on milk, and, indeed, in some diseases it is the only suitable food.

Both the sp. gr. of milk and its color may be imitated in spite of instruments with which we test both these points. Indeed, nearly all articles of food are subjected to adulteration. Thus salt, sugar, liquors, candies, etc., are all tampered with—the flour with baryta, the sugar sanded, the coffee mixed with beans and even substituted by chickory, and the liquors mixed with filthy ingredients as quassia, nux vomica, fish berries and with the oil of cognac made from castor oil or cocoanut oil. Even mustard has not been forgotten but is mixed with naphthol, which produces violent inflammation of stomach in dogs, in which even teaspoonful doses of arsenic simply act as a tonic. The most attractive candies contain only sugar enough to cause the 60 per cent. of terra alba (white earth) to hold together. The dairymen are more conscientious, only weakening the milk with water or adding a little innocent chalk. This is regarded all right in our cities but is punishable in European cities.

Butter may be made from poor milk and it is the custom to give it the color of clover butter by adding the extract of dandelion. This is far better that the oleomargarine obtained from our grocer at the full price of best butter.

The milk of different animals varies according to the purposes intended, whether the young is to be endowed with early activity or to remain passive until its digestive apparatus shall be provided for its self-preservation without the aid of mother's milk.

The human milk contains in 1000 parts in volume of what we call principles of the 1st class from

From 883 to 888 parts of water,
2.50 parts phosphate of lime,
0.50 parts phosphate magnesia,
0 007 parts phosphate of iron,
0.040 parts phosphate of sodium,
0.030 parts chloride of potassium,
..... a variable amount of chloride of sodium,
0.50 parts carbonate of sodium.

Now what we call the more complicated substances or the 2d class are

Butter 25 to 38 parts in human milk,
40 to 50 parts in rich cow's milk.

And this butter consists, as near as we can get at it, of the following compounds in the hundred parts, thus

Margarine 60 parts,
Stearine 38 parts,
Butyrine 2 parts, with of
Lactine a slight trace, say 4 parts to the 1,000.

Now we have a principle of the 3d class which we call casein, say 33 parts with variable traces of albumen. Different kinds of food, different moral and mental conditions of the mother influence the character of the milk. Certain plants as garlic, leeks, turnips, ragweed and mayweed give their own flavor to the milk, and the age of the secretion affects its quality, which for the first few days is purgative and is then called "cholesterine" which contains less water, twice as much sugar and more casein. This

is the milk which in large cities is so calculated to give rise to bowel trouble in young children, since it is served mixed with other milk, just as soon as the new-born calf has been sold as "Bob veal." This cholesterine contains globules of true milk, mixed with very large discs of oil, often aggregated in mass and adherent by a viscid substance. These globules are not as uniformly rounded as are those of older milk and have at times irregular ovoidal outlines. These cholesterine globules are said to inrease when inflammation seizes on the gland. They have a yellowish hue in their centre and give a dark look to the drop of milk under the glass. About a year after the birth of the human offspring the milk is thought to be at its best, after which time it becomes injurious to the infant. The second and third offspring get better milk than the first, being richer and more abundant, but as the number increases the fluid depreciates.

Digestibility of Milk.—Good milk in the healthy adult stomach takes two hours for complete digestion. In just half this time we find pig's feet digested, the same for tripe, which is analogous to pepsin. Broiled venison should take half an hour longer and yet half an hour less than milk. The white meat of the roasted turkey takes 2 1-2 hours; beef, 3 hours; mutton, 3 1-4 hours, and when we get to the unmatured meats, as veal, we find 4 hours needed, and pork, when roasted, requires 5 1-4 hours.

In the purely meat-eating, carnivorous animals longer time is required for digestion and once in every 2 days is enough to keep them from the pangs of hunger. Milk is the natural food for the young mammal but is unsuited for most healthy adults alone, though we now and then find they readily digest it.

No article is suited as food unless it be of a combustible nature, as the fatty part of milk for example, to be converted into CO_2 and HO, or these elements into nitrogen compound, the carbon uniting with the oxygen and the nitrogen going over to the hydrogen in the proportion to form ammonia. The cells in the glands effect these changes and thus every leaf is a laboratory and every cell a living body. Indeed in the lowest forms of vegetable and animal life the single cell forms the entire individual and does the whole work of sustaining the body corporate, and the higher in the scale of creation the more elaborate must be its food, and Nature does for the animal what it could not do for itself, in making its food ready for it.

The milk globules are simple homogeneous drops of fatty matter in suspension in the Liquor Lactis or whey, each globule having the consistence of soft butter and indeed being minute particles of butter without covering, as even detected by the microscope.

The white color of milk is due to these fat globules which abound in proportion to the richness of the fluid and in whey and skimmed milk there is a bluish hue, indicating poverty of fat cells or cream. These fat globules are soluble in ether but very slightly so in solutions of soda and ammonia. Where pus or blood are in the milk, as in abscesses the pus cells or blood disks can be detected under the glass.

Healthy milk when left to itself slowly separates into three portions, the salts being nicely held in solution while the fat cells are ready under favorable circumstances to rise to the top as cream.

The first or upper layer then we call cream is regarded as the evidence of richness and so it is in the sense of fatness, but the bone and muscle forming portion is the skim milk after the cream has been taken from it. This cream is of a yellowish white, an ivory color, of an agreeable smell and taste, chiefly composed of the butter oil with some little serum and caseine. This cream is what chiefly makes the difference in the quality of coffee. The thickness of the layer of cream varies with the richness of the milk, with the size of the pan and with the time it has been allowed for rising. Next below comes the caseine, which is

white and non-viscid and in a perfect state of solution as long as milk continues sweet. The next layer is the serum, the Liquor Lactis or the whey. It is the fluid left after the churning is complete, only there remain some flakey particles of butter and as such it is called buttermilk. This whey consists of water, albumen, sugar of milk and should have a slightly acid reaction to litmus.

Milk mixes with water in all proportions. Nearly all acids cause it to coagulate or sour, even the feeble acids of fruits. On this property of separating the whey from the caseine we base the milk treatment, so fashionable now in Germany and Switzerland, for chronic diseases of the stomach and air passages, of which Mark Twain so quaintly writes: "Invalids whom physicians could not cure and who were sent off to get well if they can on whey." Whey before breakfast, at breakfast, at dinner and at supper—whey to sleep on—to live on and to die on. This whey contains but little of the fat and casein of rich milk and thus nourishes the invalid with but little tax on the digestive organs, but the healthy man has improved on this simple diet of whey and bread and he verifies the proverb "that if it is good to have bread it is better to have butter to put on it," affording both nitrogenous and fatty matters for food.

But this so-called milk treatment differs from the plan of treating nursing children for certain constitutional affections by medicaments passed through the body of the mother, nurse or cow. An artificial milk was once used after the formula of Broconnet, taking advantage of the solubility of casein in alkaline carbonates.

Condensed milk is a form much used for nursing babes and though the little ones fatten on it from the large amount of sugar in it we often find digestive troubles attending its use.

If liquor potassae be shaken up with milk the oil globules become saponified and dilute acetic acid will show these globules to become deformed, many of them running together and when the globules are less than 1-5000 of an inch in diameter the microscope reveals the oscillation known as Brownian movements, which acetic acid stops by coagulating the casein.

The elements of milk vary in different animals, the difference, however, being chiefly in the amount of water, making thus the milk weaker or stronger, also in the amount of sugar, of oil and of casein, according as the young animal needs. The look, smell and taste of different milks vary also and the milk of mothers after their children have become independent of them often thickens, and here is a specimen on the slide of a drop of milk when the infant is 20 months old and feeds heartily on bread and gravy.

The Tartars live largely on Koumyss, which consists of the fermented milk of the mare and it is claimed to be the great remedy in consumption and for keeping up the strength of such as have imperfect digestion. We can prepare this Koumyss by taking 1 quart of good cow's milk and to it adding 1-4 teaspoonful of soda bicarbonate, 1-9 of a cake of compressed yeast, to this now add 2 tablespoonfuls of white lump sugar and 3 tablespoonfuls of perfectly pure glycerine. Now rub the yeast up smoothly with a little of the milk and mix altogether in a great bottle; cork tightly and keep at 80 to 100 degrees Fahrenheit for six hours. Then keep for 12 hours in an ice-box before using. The Russians call this a refreshing tea and from it distill an intoxicating liquor.

Butter serves another purpose than simply supplying fatty matter. It enables man to eat more than if his food was harsh and dry, and the power to work is given him by combining 1 part to 7 or 15 drachms of carbonaceous with 2 parts of nitrogenous food in his meals. This the Greenlander understands when he mixes sawdust with the blubber of the whale for his luncheon.

In preparing to sustain the young nature supplies the means, thus she furnishes milk to the young mammal, the yolk to feed the unhatched chick, the germ of the oak feeds on the yellowish fatty substance stored up in the acorn and this acorn may lie on the cold damp ground apparently dead till the genial sun wakes up the latent life of this oak germ, causing it to swell and to look about for the most ready material on which it is to grow, and this it finds in the oil, the sugar, the starch and the albumen, all stored away in the heart of the acorn and by the time this pabulum shall have become exhausted the bud has grown into a tiny stem and leaves are thrown out to seize from the air above and the earth beneath the elements out of which to form the giant oak, of which the Cunarder is constructed or even the old oaken bucket that hangs in the well. All this is cell work, just as the glandular cells which select from the blood current the milk, and we cannot add one jot to this power of the cell or of the bud, except by bestowing warmth and moisture on it and in the formation of milk we can only furnish the mother with the commissariat out of which to manufacture the fluid and the process goes on of itself. We do not know how the glands separate just the amount of fat, casein, albumen and whey from the blood any more than we know how in the woody fibre of the tree the various cells are endowed with the selective power, the one set of large cells to form the starch, another set of smaller cells to separate the oil, a third set the nitrogenous matters, while the fourth set stand ready to decompose the carbonic acid for the breathing of the leaves and the growth of the plant.

Thus nature relieves us of trying to do what we would only fail in and she only asks to be let alone. Nor can we add anything to her perfect processes, nor detract from her what she requires to nourish the tiniest plant or the humblest animal, without the risk of cutting off the supply of life to that being.

Milk has in it the elements of colorification and man measures 98.50 degrees Fahrenheit in temperature through the variations of hot and cold, and this heating power comes from the fats and vegetables in adults and from the fat in the milk supplied to the infant. If in disease this heat goes beyond the normal degree it rises at the expense of the burning tissues of the body, the pulse rising in febrile beats 10 for every additional degree of heat, indeed this is the mode of death in certain forms of fever and blood poisoning.

We may divide food into 4 kinds:

1st. The carbohydrates, where carbon is united with hydrogen and oxygen to form starch, sugar, gum and cellulose and the 4 and 0 unite to form water which makes up nearly 900 parts in the 1000 of milk, or nearly nine-tenths and at least two-thirds the entire weight of the body. This water gives fluidity to the salts in the milk and to the blood of the consumer.

Casein is a highly nitrogenized principle closely resembling the flesh of muscle.

2d. The hydrocarbon compounds and the fats and alcohol.

3rd. The albuminoid bodies, as fibrine, albumen and casein.

4th. The salts which must enter into all food to form the tissue of the body and to the full performance of the functions. The phosphates of soda, lime and potash form the juices of muscle, and the chloride of sodium, or table salt, is essential in the digestive process. By this kind of knowledge we may judge of the proper food for our cows, as well as of the materials to form fertilizers for their provender.

We require different amounts of salts for our oats, corn and wheat crops. The simplest animal food is that best suited to the young mammal and this we have in milk. The egg contains just the same fatty and albuminous elements as the milk, even one of the million of eggs deposited by a single oyster. This egg, say of the fowl, is in the semi-solid form suited

to the chick within and milk is about the same in the perfectly fluid state. If we had given us all the ingredients of the best milk we could never make half as good as the average cow yields. We find a great similarity between milk, flour and blood, alubumen entering into all three. Every 1000 pounds of average milk present:

	Lbs.
Water	880
Caseine	32
Butter or fat	36
Sugar of milk	45
Mineral matter	7
	1,000

We thus see what an immense number of fat globules enter into a drop of milk. In the brunette the milk is stronger than in the blonde, having less water, more butter, more casein and more sugar, thus we have in the

	Blonde.	Brunette.
Water	900.	853.30
Butter	35.50	54.80
Caseine	10.00	10.20
Sugar	58.50	71.20
Salts	4.	4.50

Milk varies with the diet and health, as in the case of a woman poorly fed, her milk contained 8.6 per cent. only of cream. and on good feeding it soon rose to 11.9 per cent. Season too makes a difference in the cow, which has to consume much of her food in winter to sustain her temperature, which in summer goes to milk.

Differences in the amount of carbonaceous matters in milk:

	Caseine. Parts.	Sugar. Parts.	Butter. Parts.
Human milk contains	32	36	29
Cow's milk contains	63	28	40
Goat's milk contains	80	36	29

There is a difference in the character of milk secreted in health, in acute and chronic diseases.

	In health.	In acute disease.	In chronic disease.
Water	889.08	884.91	885.50
Caseine	39.24	50.40	37.06
Sugar	43.64	33.10	43.37
Butter	26.66	29.86	32.57
Salts	1.38	1.73	1.50

At from 50 to 100 degrees Fahrenheit milk separates, the cream rising from its lightness and by violent agitation as churning or by continued shaking in a bottle, becomes changed into butter by its globules. adhering in a mass. In animals whose young have to move about earlier in life than infants, as the cow, the horse and the goat, the nitrogenized materials are stronger than in human milk so that to feed a babe on cow's milk we first give it one-third strength, say every three or four hours, after a few months one-half milk, adding a little sugar. Thus we see the need of different ingredients in milk of different animals. Rennet is a substance entering into the formation of the calf's stomach and has the effect of coagulating the casein at 120 degrees Fahrenheit. If we separate this casein from the milk we form cheese and by flavoring it and coloring it we have the fragrant Limberger, the savory Sweitzer, while by the addition of powdered sage we get the Sapsago cheese. The sugar of milk by the continued action of heat and air is changed into lactic acid. This is the so-called acid of rheumatism, and painful joints and muscles full of complaints can be speedily brought about by the hypodermic use of this same lactic acid.

Milk does more than nourish the animal economy for it allays the thirst of the young animals as well as to appease its hunger. The fibrine affords the substance for muscle, the phosphates and albumen for bone and nerve formation and the casein helps to keep the phosphates in solution.

The common salt helps to form the gastric juice, and the soda the bile, and saliva and this may serve as a wrinkle to help us repair the waste caused by dribbling in teething children. It has long been known that the addition of a few grains of soda with a small dose of calomel greatly adds to the efficiency of the mercurial and in malarial sections this is important.

Soda also assists to keep the fibrine and fatty matters of the blood in a fluid state. Of all the sustaining elements forming milk we may cite albumen as the representative of the different protein compounds, since they are all changed into albumen in process of digestion. Casein differing from albumen by not being co-

agulated by heat, but lactic acid as seen in sour milk acettic acid will coagulate the casein and yet not affect the albumen unless heat be added. Casein, too, has no phosphorus, the milk getting this important element from the phosphates. The mother thus furnishes to the helpless infant its only materials of sustenance and repair in the fat, the casein, the butter and the salts for the perfection of the skeleton which forms the ground-work for the growing body, and who of us but must admit that woman justily rises highest in the scale of self-sacrifice when he reads the scene of the frozen mother, the living babe, and the icy crystals of milk in Victor Hugo's great work entitled, "The Man Who Laughs."

INFANT FEEDING IN HEALTH AND DISEASE.

The problem of infant feeding is surrounded with many difficulties on account of circumstances and idiosyncrasies. Some infants thrive on peculiar mixtures, others fall by the wayside from an unknowable inability to digest and assimilate nature's own food, mothers milk. In cases where from many reasons human milk is not available or satisfactory we are forced to resort to artificial feeding. In our endeavor to imitate Nature's product or substitute her, our scientific knowledge as it advances will shed more light upon the points which now are somewhat obscured. We should recognize our ignorance, keeping abreast with all possible scientific progress, and sweep aside all ideas not resting on truth and fact. There are two distinct factors in infant feeding that must not be lost sight of. A food so-called may be easily digested but non-nutritious, and then again be highly nutritious but difficult to digest. The metabolic activity of the infant demands a happy equilibrium of these forces, and in the absence of these conditions a perfect infantile development surely is not obtained. It is known that a vast majority of the summer diseases of children is the direct result of improper food, and many lives are sacrificed in consequence. In the management of difficult cases all theories must be put aside, and that food tried which has proved of greatest value in similar cases. The number of artificial foods or preparations now upon the market are numerous. It is not necessary for me to speak of the short-comings of many of them. I would be very glad to know the experience of the profession, especially in my city, with "Milkine."* To me this preparation has proved of the greatest value. It is palatable, easily digested, nutritious, and readily assimilated. It has given me general satisfaction in infantile intestinal troubles. In all instances where an artificial food must be used I am sure "Milkine" will give the greatest good to the greatest number. I wish to cite a case that came under my care during the summer of '98:

Child; 10 months old; bottle fed; child cried incessantly, suffered intense pain on the slightest movement; gums swollen and bled easily, and numerous echymoses together with other well-marked evidences of scurvy. I placed the child on "Milkine" and I witnessed a very rapid recovery without the assistance of an antiscorbutic. I could furnish many instances where "Milkine" has come to the rescue, and am convinced that the fair and impartial trial of it in any of the diseases the results of malnutrition will prove of as decided value in other hands as in mine. The excellent combination of beef, cereals and cow's milk speaks volumes in itself, and too much can not be said in its favor.

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*Milkine is manufactured by Elgin Milkine Company.

the market are numerous, and it will be found that a great majority of them are to be used in combination with cow's milk, and this seems to me most advantageous. The objection to condensed milk is well known, and it is not necessary for me to speak of the shortcomings of many of the artificial foods that are at our pleasure to use.

Eskay's Albumenized Food has proved of great value to me—it is well borne, easily digested, assimilated, and highly nutritious.

I wish to cite a case that came under my case in the past summer. Child ten months old, bottle fed, several foods had been used, but none had given satisfaction. Child cried incessantly, suffered intense pain on the slightest movement, gums swollen and bled easily, and numerous ecchymoses, together with other well-marked evidences of scurvy. I at once placed the child on Eskay's Food, with the addition of cow's milk, and I witnessed a most rapid recovery, and without the use of a single anti-scorbutic.

I also furnish other instances where this food has come to the rescue, and I am convinced that the fair trial of it in any of the diseases the result of malnutrition, will prove of as decided value in other hands as in mine.

Now, what is Eskay's Albumenized Food? It is selected animal and vegetable constituents, and in this respect it differs from all other infant foods which almost without exception are composed wholly of cereals, thus presenting the proteids and fats in a purely vegetable form, which are entirely unsuited to the demands of the growing infant. Breast milk is an animal food, hence any substitute must be the same, or very largely so, to be adapted to the requirements of the young. Such a food is Eskay's. It combines the more nutritious and easily digested cereal grains (barley, oats, maize and wheat) with egg albumen and sugar of milk, it being the only food at present upon the market of this character.

The egg albumen is so combined as to insure its easy digestion and assimilation, besides guaranteeing it against putrefactive changes.

In its application to simple summer diarrhea, food of all kinds should be stopped for twelve to twenty-four hours, and no food given for several days. The intestinal canal should be cleared of all undigested food by full doses of castor oil or syrup of rhubarb, preferably the former. Should there be excessive peristalsis attended with pain, camphorated tincture of opium may be given in doses of 5 to 10 minims (3 to 6 drops) to a child 1 year of age, which may be followed by some simple sedative intestinal antiseptic, such as bismuth subnitrate.

In those forms in which to the before mentioned symptom are added fever, fetid breath, foul tongue, thirst and a loss of weight, milk should always be suspended, water alone being given. Gastric and intestinal lavage with boiled water, of a 0.7 per cent. saline fluid should be practiced; warm moist compresses should be applied to the abdomen, and if there is hypothermia, hot baths should be given, while tepid or cool baths should be used with hypothermia. About one fluid ounce (30 drops) of artificial serum should also be injected every three or four hours. Then follows the proper and careful use of Eskay's Food. The same directions will apply to treatment of diarrhea incident to teething; fetid diarrhea of initial stage of scarlatina; acute gastro-intestinal intoxication of infants, and acute dysentery.

In treating these cases it is often necessary to irrigate the intestines, viz., first wash out the rectum, then irrigate high up, with a warm normal saline or boric acid solution, the douche can be raised eighteen inches.

The perils that surround the bottle-fed baby are manifold. If a liquid reasonably resembling breast milk in composition and temperature is put into its bottle it is still in danger of sucking in septic and possibly specific germs that have been lurking in the

rubber appurtenances of the bottle. In such cases we must rely upon Eskay's Albumenized Food.

MOTHER'S MILK OR COW'S MILK.

I am not infringing upon the mother love in the sentiment that from the mother's breast comes the natural food for baby; but there are circumstances wherein this supply is not proper or, indeed, is intolerant to the child, viz., such as idiosyncracies heredited in the various taints, then it remains for the genius for human invention to provide artificial supplies which apply to every age and every clime. The idea of a milk trust may not be popular, but there two features which make it absolutely necessary that some provision be made to insure the uniformity of quality, quantity and price. As it is to-day we will quote Mother Goose melodies:

"There are many men of many minds;
There are many birds of many kinds."

Which applies particularly to the great and small producers of milk to all indeed who do not understand what sanitation means in the stable and in the stall, in the field, in the breed, in the care, all being necessary to come up to the standard for the healthy food supply, and nothing could accomplish this end save the absolute and overwhelming influence of a trust whose mandates would prevail in country and city. Then again the producers would feel more certain of his money being a desideratum for our country brother. Feeling all this to be a great truth, I have in my review looked about for some artificial supply as a substitute for Nature's fluid nourishment. First and foremost, purity should prevail at all hazards, first, now and all times. This effort investigates milk and milk foods, natural and artificial, and though I mention Horlich's preparation last, 'tis because in my conclusions I find them the very best; founded upon long years of practical demonstration, better than any, and in many respects superior to them all, so that now this sentiment has proven to me to be a veritable truth.

First, because of their trustworthiness in the treatment of typhoid, low fevers, la grippe, wasting diseases and infantile feeding and that all substitution should meet absolutely with no encouragement, on the contrary the universal confidence displayed in Horlich's Malted Milk by the profession at large, and many clinical reports of cases which are all the world to the doctor who is seeking for truth for his own satisfaction. I have tried malted milk, personally, as a substitute for tea and coffee, and observed when used in this way the common attacks of indigestion which follow the use of these fluids are prevented, and also giving convalescence with very happy results. Again, in the supervision given by this house in every detail necessary to obtain absolute purity and cleanliness; with superabundant care they pasteurize the milk; but this is not all; they do their own malting, a most important ingredient. They are located in the finest dairy district in Wisconsin, in the country where they have plenty of fresh air, sunshine and the purest spring water, and like Job of old, feed their flocks on a thousand hills and valleys, and they have the largest food mill plant in the world. Their experience of thirty years enables them to offer the best food products that can be manufactured.

The following cases may be interesting to the reader who desires some clinical cases reported from my notes on experiences with Horlick's Malted Milk:

I have had under my care to manage to save a few prematures whose parents were most anxious to foster and bring them to the age of inheritance. One of these little ones made her debut at six or six and one-half or seven months. Gestation vitality was quite manifest and determined, although minus hair and nails. I placed this tiny one in a rice dish, surrounded her with cotton (listerized), placed the cover with a small aperture for feeding purposes, set this dish into a larger bowl surrounded with water at 105

degrees (F). Thus she continued until full timed. The nourishment was supplied through a quill, drop by drop, of Horlick's Milk, proper solution, with remarkably good results, she being now a bouncing girl of fourteen.

Case No. 2. An aged couple, toothless and senile, who have been nourished for the past five years on Horlick's Milk Food are to-day enjoying as good health and nourishment as could be expected when we consider their many disabilities. I have many cases now under my care suffering with heart troubles, in connection with gout and rheumatism. Since I have substituted Horlick's Milk Food, etc. for tea and coffee spirits and nostrums, and have submitted to the treatment of granules of strychnine and digitaline (Detroit Alkaloidal Granule Co.) together with Lithia water, Goods No. 2, and lead a passive and unvexed life, they manage to exist with some degree of happiness and hope. Again, in varied forms of chronic diarrhoea, dysentery, mucus, patches and necrutic or senile ulcerations of the intestines, my reliance is mainly based upon Horlick's Milk, together with a ministration of granules copper arsenic and codia sulphate, grains 1-140-1-150 D. A. G. Co., with remarkable relief. I might go on to enumerate many other illustrations of the good effects growing out of the proper uses and administrations of such a diet and therapy, but will reserve my further remarks until I can complete my coming paper, Diets and Stimulants in Re to Gout and Rheumatism.

AN ANALYSIS OF MELLIN'S FOOD AS PREPARED FOR USE; BY DR. A. STUTZER, OF BONN, GERMANY.

Bonn, January 23, 1887.

"Some time since I examined a number of English and American Foods for infants, and reported the results of my analyses in the Pharmaceutische Centralhalle, of Dresden, and the Pharmaceutische Rundschau, of New York.

"The examinations were made of the various foods simply as they appear in commerce, and without the addition of milk which is necessary in some cases. It is clear, therefore, that such foods as are directed to be mixed with milk immediately before use, occupy a far less favorable position in the analyses than do those in which the milk has already been incorporated during the process of manufacture. Mellin's Food, which has been introduced by you, belongs to the class in which the milk has not been incorporated.

"I have again subjected Mellin's Food to a rigid analysis after having prepared it with milk, strictly according to the directions accompanying it, that is, two tablespoonfuls of Mellin's Food dissolved in four ounces of warm water and twelve ounces of warm cow's milk of good quality.

"Starch is entirely absent, hence the carbohydrates must be easily assimilable. These carbohydrates consist of maltose, dextrine and milk sugar, so highly beneficial to the infant organism; while cane sugar, which acts injuriously upon infants and often produces gastric acidity, is entirely absent.

"The Albuminoids present prove to be easily digestible, whilst of indigestible cellulose a trace only is present.

"The proportion of fat is smaller in Mellin's Food than in pure milk but this is by no means a defect, as it is well known that a high percentage of fat in substitutes for mother's milk is deleterious in many cases. Hence the ascertained amount of fat may be declared sufficient to satisfy the requirements of a food for infants.

"Mellin's Food has an agreeable odor of malt, and a sweet taste.

"The microscopical examination of Mellin's Food shows it to be homogeneous. The vegetable substances of which it is composed have, through careful manufacture, been changed from their original character and thereby have been rendered easy of digestion. Starch is entirely absent.

"In order to form a correct judgment of the value of foods which are

intended for the nourishment of infants, it is important to make a comparison of the separate constituents present with those of woman's milk; we are thereby enabled to determine whether the composition of the artificial food may be considered rational.

"In order to obtain such a comparison, I have placed the results of my analysis of Mellin's Food prepared for use, side by side with the analyses of woman's milk and cow's milk."

COMPARATIVE ANALYSIS OF MELLIN'S FOOD PREPARED FOR USE, AND WOMAN'S MILK AND COW'S MILK.

Constituents.	Mellin's Food.	Woman's Milk.	Cow's Milk.
Fat	23.6	40.0	33.0
Albuminoids (nitrogenous substances)	28 3	25.0	35.0
Carbohydrates	68.1	65.0	50.0
Salts and inorganic substances	7.4	5.0	7.0
Water	872.6	865.0	875 0
Cellulose	A trace.		
Cane Sugar	None.		
Starch	None.		
	1000.0	1000.0	1000.0
The Salts contain bone-forming constituents as follows:			
Phosphoric Acid	2.323	1.10	2.0
Lime	1.187	0.80	1:5
Nitrogen in Albuminoids	4.54		
Albuminoids easily digestible, per cent	97.6		
Albuminoids not easily digestible, per cent	2.4		
Proportion of Albuminoids to other nutritive substances	1:4.4		

"Briefly to summarize the results of my examination, I have to declare that Mellin's Food prepared with milk according to the directions accompanying it, perfectly fulfills every requisite of a food for infants."

NEW YORK ACADEMY OF MEDICINE—SECTION ON ORTHOPÆDIC SURGERY.

(Meeting of November 17th, 1899.)

FRACTURE ADDING TO THE DEFORMITY OF POTT'S DISEASE.

Dr. W. R. Townsend presented a boy, 15 years of age, who developed Pott's disease in the lower dorsal and upper lumbar region 6 years ago. Two years ago, having recovered with considerable posterior curvature, after treatment by the plaster of Paris jacket, he fell from an ice wagon, striking on his head. Plaster of Paris was re-applied. He presented a projection on each side at about the level of the 12th dorsal vertebra. The spinous processes could be felt between the elevations which were very marked and might have been supposed to be calluses following fracture of the ribs near vertebral column.

Dr. R. H. Sayre said that in addition to the anteroposterior curve there was lateral displacement which might well have been the result of vertebral fracture.

Dr. S. Ketch (*) said that the bony projections were secondary formations, the result of traumatism and distinct from the spinal disease.

RICKETS IN A DWARF.

Dr. Townsend presented a girl, 6 years of age, 35 inches in height, the average height at that age being between 40 inches and 42 inches. There was enlargement of the epiphyses of the long bones with an enlarged head, prominent chest and protruding abdomen. She was a mouth-breather and failure to grow normally might have been due partly to adenoids and insufficient oxygenation. There might have been obstruction in the posterior part of the nose, although the result of inspection anteriorly had been negative. The characteristic skin and facial expression of cretinism were absent.

Dr. Sayre suggested enlargement of the air passage by treating the tonsils and adenoids.

Dr. Ketch said it would be of interest to know whether this relief would promote normal growth.

Dr. H. S. Stokes said that the patient was probably a constitutionally lymphatic child, one of a class of patients in whom the administration of anæsthetics was attended with danger. Without hastily making a positive diagnosis of this condition, he suggested that the use of anæsthetics be preceded by a thorough physical examination.

POTT'S DISEASE OR FRACTURE OF UERTEBRAE.

Dr. Townsend presented a girl 6 years of age, with a very obscure history. Two years ago, when living with her grandmother, after an accident in which she fell down a flight of stairs, striking the back of her neck, a bony prominence had been noticed, with difficult respiration and a habit of supporting her head with the hand placed under the chin. Kyphosis was marked, involving the 6th and 7th cervical and the 1st and 2d dorsal, with a depression of the upper cervical vertebræ.

Dr. A. B. Judson thought that the number of the involved vertebræ pointed away from fracture and towards Pott's disease. The elements of diagnosis in orthopædic cases might be arranged in the following order of relative importance; 1st, signs (objec-

*Dr. Samuel Ketch died suddenly of cardiac disease on December 14th, 1890, at the age of 44. His untimely decease was sincerely mourned by his bereaved colleagues. The meeting of Dec. 15th, 1899, adjourned out of respect to his memory.

tive); 2nd, symptoms (subjective); 3rd, history as given by the mother, and 4th, history as given by the grandmother.

Dr. Sayre said that a forward position of the head in cervical Pott's disease was frequently attended by difficult breathing. He thought, however, that the child had suffered a fracture and recalled the case of a man who had fallen down stairs, striking the back of his head. Partial paralysis of the arms developed from pressure. A diagnosis of Pott's disease had been made but the signs and history indicated a fracture.

Dr. Townsend said that the treatment, at least, was not doubtful. The affected vertebræ should have complete rest, either by a plaster jacket and head-spring, or by a posterior spinal support and chin-piece. The latter would be less conspicuous and give better support, with or without the addition of supports going up the back of the head, as might be determined by the progress of treatment, which should be prolonged until the disappearance of all signs of an acute condition. Ultimately the patient would carry the head erect without much deformity, as is the rule in cervical disease thus treated.

THE DURABILITY OF THE PLASTER OF PARIS JACKET.

Dr. Stokes related the history of a case of Pott's disease in a girl who was 4 years of age when first seen in September 1894. Duration of disease 2 months. The 10th dorsal vertebra was affected. The plaster of Paris jacket had been applied anew 7 times at intervals of from 8 to 15 months, the average being 11 months. No pain or discomfort had been traced to the apparatus. At the last application, on October 13th, 1899, it was found that a small stone had slipped into the jacket and caused an erosion which had healed in a few days.

Dr. Townsend had seen plaster jackets that had been worn 2 years.

Dr. L. W. Ely cited a case in which the jacket had been re-applied at intervals of 13 and 8 months without excoriation.

Dr. Sayre referred to the case of a child who had worn a solid jacket for 2 years.

Dr. H. Gibney cited 3 cases: I. A boy seen in 1891. Age 4 years. Location, middle and lower dorsal region. Emaciation. A large psoas abscess. First jacket was worn 2 months, the second one year and the third had been applied 2 months ago. There had been no increase of deformity, the abscess had been to a large extent resolved and the general health had improved. II. Boy. 1895. Six years. Tenth dorsal. First jacket worn 3 months, the second, 11 months and the third was applied 3 months ago. The local condition was favorable and the health had improved. In the third case, that of a woman of 27 years, a firmly fitting jacket had been worn for a year without inspection, with freedom from pain and discomfort, and with good effect.

Dr. Sayre cited two cases in which patients had not done well with jackets that were removable, but which progressed favorably towards recovery when the immovable dressing had been applied. In both cases the treatment had been modified in its early stages by the over-weening kindness of the grandmothers of the children. He had seen cases in which efforts to replace comfortable jackets by new ones had not been brilliantly successful, it having been a long time before the patient was again made comfortable. For obvious reasons a jacket should not remain in place too long on a child who was growing fast.

Dr. V. P. Gibney said that more important than the question of time was that of applying the jacket so as to give good support and avoid excoriations. A jacket well applied would not disturb the skin and should be durable. In the case reported by Dr. Stokes the trifling excoriation had soon healed and a cure had been effected by the prolonged splinting of the back.

Dr. Sayre said that excoriations could generally be avoided by a careful application of the jacket.

Dr. Stokes said that the percentage of excoriations was small and in ten cases the trouble had been due to the jacket in four cases and to foreign bodies, little things such as pennies and button-hooks, in six cases. Excoriations caused by a jacket were evidences of a want of skill and experience on the part of the surgeon.

Dr. Sayre said that the skin could be kept clean and healthy by passing a whale-bone inside of the jacket and so pulling up and down a fine handkerchief dampened with alcohol.

Dr. H. Gibney said that a solid jacket should be applied over a long strip of six-inch wide linen or gauze, which could be daily wet with alcohol and drawn back and forth.

PLASTER OF PARIS COMPARED WITH STEEL APPARATUS.

Dr. Ketch said that the condition of the skin should be made the subject of stated investigation, not to prevent excoriations, but to ascertain whether we were giving the diseased vertebral column all the mechanical support which the toleration of the skin warranted. The use of a steel apparatus facilitated an occasional and desirable estimate of possible decrease or increase of deformity, which was impossible with the immovable dressing. Changes in the shape of the patient, from growth or otherwise, should meet with corresponding changes in the pressure made by the apparatus.

Dr. Townsend said that the frequent removal of the jacket or brace was one of the worst things that could be done. It was not practised in the treatment of fractures. In Pott's disease we sought proper anchylosis at the seat of disease. We therefore immobilized the vertebral column. So long as the jacket was clean and the skin healthy we could forego the doubtful advantage to be gained by frequent inspection and rely on the effectiveness of the apparatus.

Dr. Ketch said that the removal of the brace for alterations, when done with ordinary care, could not delay or interfere with consolidation. The more scientific procedure was to use an apparatus which was under intelligent surgical control.

Dr. V. P. Gibney had failed to see that important benefits could be gained by taking off the apparatus from time to time. If sure of the diagnosis and of a well-fitting plaster jacket he was confident of a good result.

Dr. Sayre said that in the cervical region, and anywhere above the 10th dorsal, a jacket should be supplemented by the jury-mast and by a brace to control the shoulders. Traction and control of the movements of the head were very important. He often made use of a metal and leather support to make a base for the jury-mast.

Dr. H. Gibney commended the method of application in which the patient rested on two untempered steel rods, bent to fit the shape, and elevated from the table, partly lying on them supine, and partly held up by two assistants who made gentle traction, the rods being drawn out while the plaster was setting.

Editorial

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ASEPSIS.

Orthodox antisepsis belongs to past history. It has been crowded out by what is designated asepsis, or in plain language cleanliness. The aim of modern surgery is to sterilize everything. But ideal sterilization is little more than a vision. We may sterilize instruments and dressings by heat, but we cannot boil the surgeon's hands or the patient's tissues, nor can we bake the ubiquitous germs of the atmosphere which surrounds us.

The extreme lengths to which some have gone in carrying out the tenets of this is in some instances little short of absurdity.

The underlying principle of asepsis is to displace by lavage all foreign elements that have found lodgment in a wound and the prevention of the introduction of others, by the hands, instruments, dressings or other agencies. It is undoubtedly a vast improvement over antisepsis in healthy wounds is within the reach of all, and is simple in its application as it is effective in its results.

Antisepsis and asepsis have contributed to vastly revolutionize our management of serious crushes of the extremities. Combined with modern osteoplastic operations, they have enormously reduced the number of traumatic amputations. If, for the superb and perfected dressings which their practice caused the fabrication of alone they must be conceded as the greatest boons ever conferred on the human family.

THE TECHNIQUE OF APLICATION OF ANTISEPSIS AND ASEPSIS.

Let us first consider the primary employment of these measures, and take as an illustration the case of a man who has sustained serious crush of a limb by being run over by a street car. Now surgical aid is called to attend the case on the spot. His first concern will be to staunch the hemorrhage, then place limb in a comfortable adjustment, wash away, with as clean water as is at hand, the surface dirt, apply appropriate adjustment with dressings to the mangled limb. Now the individual is sent on a stretcher, ambulance, or otherwise, to his home or a hospital. Having him placed comfortably in bed, our most judicious plan is to treat for the time our patient rather than his injured limb.

Let him rest and rally. After an interval of time, depending on his

general condition, we will get ready for re-adjustment, resection, amputation or whatever it will be. Carefully study our case and make our final decision on what course will be most prudent to pursue. Get our instruments, materials and dressings in readiness and secure ample assistants.

Now the time has come for the greatest possible care, in adjustment of the parts with a view of preventing irritation or sepsis; for with the dressing, as in a typical amputation the final outcome of the case will depend in a large measure on the thoroughness of our aseptic provisions; inasmuch as after our primary dressing, when healing processes begin, frequent changes in the dressings of the parts is worse than useless.

The apartment in which we are make a definite dressing and adjustment of the parts. In the intemperate rush to perfect antiseptics our heads have been so turned that we seem to have forgotten that there is such a vital subject to consider as the condition of the atmosphere. It cannot be sterilized, even though that were desirable or necessary; but it can be warmed or cooled.

It is of vital importance that the apartment in which we operate be well-heated before we expose the nude, mutilated tissues. To operate in a cold, chilled room, no matter what provisions have been made to meet other requirements, is to expose our patient to the danger almost certain: erysipelatious inflammation or tetanus.

Of this we have the valuable testimony of Baron Lanz, whose memories recount the terrible mortality which succeeded these major operations which had to be performed after the sanguinary battles fought during the winter campaign in the Russian invasion.

In the cold season the temperature of the operating room should be about 80 degrees. The depressed state of the patient requires, too, that a raised temperature be maintained until reaction is thoroughly re-established.

Besides a warm room if should be well lighted. That it is thoroughly cleansed and disinfected, when this is practicable, goes without saying.

Our table prepared and necessary dressings at hand, we are quite ready to proceed. Having cleansed our own hands and the patient's limb, shall we irrigate? For the past three years the routine use of the irrigator has been discontinued, and with it the drainage tube had to go.

In the King's College Hospital, in London, in Sir Joseph Lister's service, a simple hand-basin is employed. The drainage tube has been greatly abused. Drainage implies the evacuation of effete substances; but why should a healthy wound give issue to such? As a matter of fact in traumatic disorganizations of the extremities, of any description, they, as a rule, do vastly better without canalization. Gauze-tamponage serves all necessary purposes.

Sir Joseph has lately pronounced in favor of the sponge. For imbibing and hæmostatic purposes it is unequalled by anything. During the rage of germaphobia it was cast aside because it was said it could not be sterilized; but it would be just as rational to condemn and destroy our own hands because they are unable to resist boiling water.

At our primary-adjustment of a very bad part we will be cautious to remove every foreign substance, and introduce none, chemical or otherwise. If the parts are the seat of purulent changes the antiseptic solutions are needed.

For cleansing purposes it is the custom to employ sterilized, or boiled water.

Mr. Bantock, of the Good Samaritan Hospital, alleged that the test of water's purity with him was when it was fit to drink, it was equally safe for wounds. This is the most rational and reliable test I am acquainted with, and it no doubt is a safe rule.

For a covering immediately in con-

tact with the nude tissues, gauze saturated with sterilized olive oil has my preferance to any other. Oil is a well-known antiseptic. It is soothing to the sensitive surfaces and is quite impervious; besides when removed its unctuous character prevents adhesion to the wound surface. It might be objected that it prevents drainage and locks up fetid secretions; but this is only a theoretical objection, for such fluid easily works its way out under it into the imbibing tissue investing it. But a healthy wound should have little discharges.

Over this a thick, but loose, even layer of sterilized gauze is carried. When the wound is foul, dry gauze, saturated with some potent antiseptic substance is to be preferred; because of its power to take up and decompose the discharges. Over gauze, for its firm staying qualities, a heavy muslin bandage is applied. According to circumstances, various splints are selected to fix and support the arranged parts.

Under ordinary circumstances, unless there be some serious local or constitutional disturbance, something should always be promptly heeded—thus dressings should not be disturbed for four or five days, and sometimes for a much longer period.

Consecutive dressings should be applied on a somewhat modified principle to those which were adopted at the primary.

Healing or reparative processes have now commenced. The tissues, before benumbed are now highly sensitive; the sore is bedewed and glazed with a layer of lymph, and no discharge, perhaps, is escaping except such as always attends the repair of disorganized soft parts. With this class of cases it is obvious that the less we interfere with nature's work the better. But the changing of the dressings of the whole limb, the slight motion of the joints and alteration in portions of the limb though attended with some pain is almost invariably followed by a sense of comfort later.

There are good reasons to believe that in aseptic wounds the improved nutrition, consequent on change of dressings, is dependent rather on renewal of material, motion and massage than by any disturbance of the wound by washing and irritating coverings. Of course in the consecutive dressing of inspected wounds in those attended with complicating features, our line of practice must vary, to meet the changing conditions of each special case. Many of these cases in which there is an extensive shattering largely owe their preservation to the skill, tact and discernment of the surgeon in the dressings.

RECTAL POLYPI.

Phocas, (Annales D'orthoperiques), recites a few interesting points on some of the rectal troubles in infants, giving particular notice to polypoid excresences in the rectum.

He cites the case of a boy of six years with "anal-prolapse" for four years, meanwhile passing under the eyes of several physicians who were content to confine their examination to inspection, and employ one means after another without avail.

Finally the case came under the notice of M. Phocas. He learned that the child had painful defecation and each time lost blood. On digital exploration nothing abnormal was detected, although a polyp was sought for.

No relief succeeded, when after another month the child was again returned. This time a lavage was made, when down came a polypoid tumor, the volume of a large cherry. This had a long pedicle, which evidently after each motion, when spasmodic straining passed off mounted up toward the sigmoid. Now the tumor was drawn well down and ligated close to the root. This was then divided and touched with a Paquelin's cautery.

Recovery was prompt and the prolapse ended. On examination by microscope, sections showed the neoplasm to be an adeno-suyxoma.

Staltz, of Strasbourg, in 1831 first gave special notice to these excresences. Later he was followed by Gigon, Guerssant and Jaccond.

They were most frequently met in childhood, from the 5th to the 10th year.

Bokai in 133,624 sick children examined from 1856 to 1879 saw 62 cases. There were 29 in boys and 33 in girls. Albingham saw 40. In 17 the age was about 14 years.

Esmark believed they were hereditary. Bartholomew saw two cases in cousins, and Langenbeck two, one sister and one brother.

Pathogeny.—Stolz believed that they result from a pinching of the rectal mucosa scyballae of faeces. Others incrimated ascarides. Gigon found them always in frail children. Trilat found them after dysentery. Virchow after colitis. Lascha and Lebort regarded them as obstructed hyportrophied glands of Liberkun.

Morbid Anatomy.—They always have a free pedicle, are being are circular or oblong in shape, the size of a cherry or walnut. They present a rugose surface. Their surface is intended by lacunae not unlike a tonsil. Their usual situation is near the anus, though they may extend up into the sigmoid. They are usually solitary, though Holmes and Brezant record instances of the multiple type.

Their Symptoms.—These masses are quite invariably attended by definite symptoms, by hæmorrhage, tenesmus, pain and straining with prolapse.

Their Treatment is Excision.—M. Phocas makes a strong plea for a thorough examination in all cases of prolapsus-ani, especially in young children, pointing out at the same time the simplicity and precision of treatment when the condition is recognized.

PEDIATRICS

In charge of LOUIS FISCHER, M. D. and GEORGE A. SAXE, M.D.

Dr. Charles H. May read a very interesting paper before the New York Academy of Medicine on the middle ear complications of scarlet fever and measles. He recognizes two types. 1. Catharrhal, generally mild with little damage to the tympanum, and 2. purulent, more often severe, and with considerable destruction of the contents of the cavity, and of its walls. This he considers an important distinction.

The character of the inflammation depends on the nature of the infection. With measles it is most often catarrhal, while the purulent form preponderates in scarlatina.

Otitis begins toward the end of the first week in scarlet, after the fever has gone down. This enables us to suspect ear trouble in case we have any subsequent rise of temperature. The diagnosis is more difficult if the otitis occurs at the height of the scarlet fever symptoms. The presence of fever, fullness and throbbing, dizziness, and pain, severe and deep-seated, lancinating or dull, make an aural examination imperative. This generally shows us the drum membrane reddened and later bulging. If we are dealing with a purulent condition the abscess nearly always perforates through the drum, whereas a considerable number of catarrhal cases recover without perforation. In the latter cases the exudation is discharged through the Eustachian tube. In the comparatively few cases which do not heal after rupture of the membrane, the inflammation becomes chronic, and gives rise to those cases of running ears so frequently seen in children.

May divides the treatment into 1. Prophylactic, i. e. proper cleansing of the throat and nose, for from these the inflammation extends; 2. Abortive, consisting in rest, diet, etc., with dry heat or warm irrigation, local depletion and inflation by Politzer's method. He also employs in addition, suction of the tube and cavity.

(We have not had very many brilliant results with these aborting measures, but we see no reason why they should not be tried.)

3. Paracentesis. When in doubt incise. This advice holds good when the abortive measures have not proven successful. The incision should be made at the point of greatest prominence and should be sufficiently long. After the pus has found an outlet don't prevent its flow by plugging up the external canal, but merely put in a little cotton for drainage.

The diminution in the frequency of ear complications, and in the number of chronic cases, the writer ascribes to 1. The mild type of scarlet fever in recent years. 2. The more frequent and early removal of adenoids and tonsils. 3. The attention paid to cleansing of the nose and throat, and (4) the greater frequency of early incision.

Francis Huber has noticed many cases of scurvy, occurring most frequent in well-to-do patients who are rhachitic. Most of these patients have been brought up on condensed milk and artificial foods. Some, however, received sterilized milk diluted with water or cereals. We have not seen a single case where the child was breast fed, although we believe that such do occur. Tenderness, restlessness, and spells of screaming and crying are the prominent symptoms. The absence of digestive symptoms, vomiting, colicky pains, etc., is noteworthy, while hemorrhage and swelling are very infrequent. Stiffness of the

limbs and general lethargy are present. The administration of fruit juices causes a rapid disappearance of the symptoms.

Lowman calls attention to the etiological relations existing between whooping-cough and gastro-intestinal disturbances and rickets. Heretofore this sequel has been more often recognized by its effects than during its progress, for the reason that its development is often insidious and without the well-marked cardinal symptoms. This is especially so in well-to-do families, where the dietetic and hygienic conditions leave little to be desired. He considers it due in part to the depressing effects of the prolonged cough, and in part to the disturbances of nutrition, which so often accompany pertussis, and which necessitates a limitation of the diet. The administration of the starchy artificial infant foods undoubtedly causes at least a predisposition to rickets. Although our knowledge of the exact nature of rhachitis is rather limited, still its etiologic factors are sufficiently well known, to make it plain, that a diet rich in proteids, fats and salts is necessary for its treatment, together with pure air, sunshine and phosphorus. Lowman simply wishes us to keep our eyes open for this, as a possible sequel of pertussis and thus to be able to check it in time.

Again we hear of the hypodermic injection of vaccine virus. Gardiner claims to have obtained good results with it, introducing it simply under the skin. The advantages which he claims for it over the scarification method are: (1) the saving of time, (2) the impossibility of wiping off the virus, and therefore greater certainty of success, (3) the diminished pain, and (4) the smaller scar. We agree with him in points 2 and 4, but we fail to see how he can save much time, if he is going to be careful to have the syringe, needle, etc., aseptic. The amount of pain is moreover so very slight that his advantage is practically nil, and we have found that if the implantation is made a little deeper than necessary, the resultant pain is very much greater than in the ordinary method.

PROPER FOOD FOR SCHOOL CHILDREN.

"It has been my observation, after most careful experiments," says Mrs. Rorer, "that both children and adults who eat freely of good, ripe, mellow apples, either raw or baked, and with the skin removed, are free from various forms of indigestion, liver trouble, and constipation; a scraped apple is more easily digested than one partly masticated. The skin of an apple is no more desirable than the outside bran of wheat. The ripe, mellow peach is really the only fruit for children. The banana, in its true home, where it becomes mature before picking, forms an important part of the diet of the inhabitants. Many varieties, however, used there in an uncooked condition, will not bear transportation; consequently, those which are sold in our markets are of the inferior variety, picked long before they are ripe or mature, and the ripening of which is almost a premature decay; they are exceedingly difficult of digestion, and children should never be allowed to eat the ordinary banana unless cooked. Baked-bananas are very popular. Fried bananas, as well as all other fried foods, are to be condemned.

—The Dietetic and Hygienic.

HELP FOR STRUGGLING YOUNG PHYSICIANS.

A physician of St. Petersburg, Dr. G. I. Arkhangelsky, who died last summer, left nearly his entire fortune (about $12,000) to the Society for the Protection of Public Health, in order to establish a fund for the assistance of young physicians in the first years of their practice.

—Medical Record.

BOOK REVIEW

CHRISTIAN SCIENCE—AN EXPOSITION OF MRS. EDDY'S WONDERFUL DISCOVERY, INCLUDING ITS LEGAL ASPECT—A PLEA FOR CHILDREN AND OTHER HELPLESS SICK BY WILLIAM A. PURRINGTON, ESQ., NEW YORK—PUBLISHED BY E. B. TREAT & CO., 241 WEST 23d STREET, NEW YORK, N. Y. PRICE, $1.00.

One is particularly impressed, on opening this neat little volume, with the frontispiece. The subject of this photograph is the gangrened foot of a child which had been treated by a "healer" by "prayer and salve," which latter is quite a concession for a "Christian Scientist."

Since the remarkable essay of Mark Twain in one of our monthly literary periodicals on Christian Science there has been nothing which has seemed more forcible to come to our attention than this little work of Mr. Purrington's. It is replete with the fallacies of the doctrine, and the legal aspects of such methods of treatment. It will interest physicians by an insight to the contentions of Mrs. Eddy and her "graduates" who have received their "diplomas" from her school, the "Massachusetts Metaphysical College," at the nominal cost of three hundred dollars for a twelve-day course of training.

TO THE MEMBERS OF THE MEDICAL PROFESSION IN THE UNITED STATES.

The cause of humanity and of scientific progress is seriously menaced. Senator Gallinger has again introduced into Congress the bill for the "Further Prevention of Cruelty to Animals in the District of Columbia," which he has so strenuously and misguidedly advocated in the last two Congresses. It is Senate Bill No. 34. Twice the Committee on the District of Columbia has, also unfortunately and misguidedly, reported the bill with a favorable consideration. It is speciously drawn to seem as if it were intended only in the interest of prevention of cruelty to animals, but the real object is twofold: 1, to prohibit vivisection and, 2, to aid the passage of similar bills in all the State Legislatures.

It hardly needs to be pointed out that this would seriously interfere with or even absolutely stop the experimental work of the Bureau of Animal Industry and the three medical departments of the government, the Army, the Navy, and the Marine Hospital Service. The animals themselves might well cry out to be saved from their friends. No more humane work can be done than to discover the means of the prevention of diseases which have ravaged our flocks and

herds. All those who raise or own animals, such as horses, cattle, sheep, pigs, chickens, etc., are vitally interested in the preservation of their health and the prevention of disease.

The inestimable value of these scientific researches as to the prevention and cure of disease among human beings it is superfluous to point out. Modern surgery and the antitoxin treatment of diphtheria alone would justify all the vivisection ever done.

As my attention has been called officially to the introduction of the bill, I take the opportunity of appealing to the entire profession of the country to exert itself to the utmost to defeat this most cruel and inhuman effort to promote human and animal misery and death and to restrict scientific research. It is of the utmost importance that every physician who shall read this appeal shall immediately communicate especially with the Senators from his State, shall also invoke the aid of the Representatives from his or other districts in his State, and by vigorous personal efforts shall aid in defeating the bill.

It is especially requested also that all of the national, State and county societies, at their next meeting, take action looking toward the same end. If regular meetings are not soon to be held, special meetings should be called. Correspondence is invited from all those who can give any aid.

The Committee on the District of Columbia consists of Senator James McMillan, Chairman; and Senators J. H. Gallinger, H. C. Hansborough, R. Redfield Proctor, J. C. Pritchard, Lucien Baker, C. P. Wetmore, C. J. Faulkner, Thomas, S. Martin, Wm. M. Stewart and Richard Kenney. Personal letters may be addressed to them or to other Senators. Petitions should be addressed to the Senate of the United States.

W. W. Keen, M. D.,
President Am. Med. Assn.
—In Jour. A. M. A., Dec. 23, 1899.

DR. W. A. HAMMOND.

Dr. W. A. Hammond, ex-Surgeon General U. S. A., and, at the time of his death, Professor of Mental Diseases in the Baltimore Medical College, died at his home in Washington City, January 5, 1900. Dr. Hammond was one of the most famous practitioners in America. He had for years been conducting a sanitarium for nervous diseases, at Washington. His career has been a checkered one—and is well known to the physicians of the United States. He was for some time interested in the animal extract fad.

PROFESSOR SCHENK REMOVED.

Dr. S. L. Schenk, professor of embryology and histology, and director of the Embryological Institute at the University of Vienna, has been retired on a pension. This action is in answer to a petition from the medical faculty of the university alleging the publication in the lay press of scientific theories constituting a form of advertisement. Dr. Schenk, it will be remembered, is the man who, not long ago, published a saccharine theory of sex production, anl made a little noise in the newspaper world. He had been director of the Embryological Institute for twenty-six years.

—Medical Record.

THERAPEUTICS

In charge of H. B. SHEFFIELD, M. D., New York.

CANNABIS INDICA IN EXCESSIVE MENSTRUATION.

While the curette is the ideal instrument for attacking excessive menstrual flow, there remains a number of cases that will not permit operation, and others in which the trouble is entirely one of functional derangement. In such cases, especially where the exciting cause is an irritation arising in the Fallopian tubes or in the ovaries, 10 to 15 drop doses of tr. cannabis indica, given every three or four hours is often curative. It should be commenced a few hours after the flow sets in, say twelve to fifteen hours after, and continued until its effect is produced or the symptoms abate. Much will depend upon the character and purity of the product used as to the amount of benefit received.

—Gaillard's Med. Jour.

THE IRRESPONSIBILITY OF PRESCRIBING DRUGGISTS.

Justice McLean, in the supreme court, recently dismissed the complaint in a suit brought by a butcher against a firm of druggists on Eighth avenue, to recover $10,000 damages, because one of the firm's clerks treated his injured finger and made it worse. Justice McLean held that druggists and drug clerks have no license to practice medicine and surgery, and that the complainant sought advice from the clerk in this case at his own risk.

—Medical Record.

PADDING FOR SPLINTS.

Absorbent cotton does not make good padding for splints. Ordinary cotton batting is far more elastic and will not gradually pack together by absorbing moisture from the skin.

Richmond Jour. of Practice.

TO REMOVE TONSILS.

When removing tonsils, it is often found that there is some difficulty in getting the tonsils within the fenestra of the guillotine. In these cases the tonsils can usually be easily pushed in by pressure on the neck over the site of the tonsil with the fingers of the unoccupied hand.

—International Jour. of Surgery.

THE WEATHER IN MEDICINE.

In the antique days of the cave-dwellers, when man and woman made their raiment of a single shag of fur, they felt the play of the elements hardly more than the surrounding wild beasts. The sun scorched and the frost nipped them, but little they recked if only the present hunger were satisfied. How different to-day are the relations of the human race to meteorologic environments. "Catch cold" is the common exciting or predisposing cause of most respiratory disorders. Many arthritic individuals excel the U. S. Weather Service in foretelling storms, by the pains in their joints. The most pandemic of epidemics seems to fly, as it were, on the wings of the wind. The variations in atmospheric electricity have a direct bearing on the morals and well-being of thousands of susceptible persons. When the sky is clear and the skin functionates, the spirits rise like a lark, to sink again into the depths when gathering clouds invite auto-intoxication. Altogether we are of the opinion that while the weather may be talked about too much by everybody, it is studied too little by the hygienists of the nation.

—Denver Med. Times.

THE USE OF QUININE IN MALARIAL HEMOGLOBINURIA.

Steggall, of Costa Rica, has reached the following conclusions upon this subject: (1) Quinine causes irritability of the kidneys and may cause hemoglobinuria. (2) Malarial attacks in chronic cases with malarial cachexia may cause hemoglobinuria. (3) In these cases quinine has lost much of its specific effect, and large doses must be exhibited. Should there be a periodicity, we must give the quinine before the time of attack. (4) The action of quinine must be assisted by such drugs as iron and arsenic, and, more important even than quinine, the liver must be acted on well, and the effect kept up. Dr. Steggall says he has never been able to cure an attack of hemoglobinuria without getting the liver active; the bilious vomiting in these cases sufficiently indicates the necessity of this.

—Medical Record.

PRESERVATION OF SURGICAL NEEDLES.

At a recent meeting of the New York Surgical Society, Dr. Dawbarn recommended the use of a saturated solution of sodium carbonate (washing soda) in water, for the purpose of preserving surgical needles. He stated that in his opinion this method of keeping the needles and cutting instruments untarnished was superior to any other which had thus far come within his experience. He showed needles kept bright in this way for a year or more. Most of the other methods are open to some objection. Perhaps the most common method is to sew the needles into an oiled cloth, but this does not always prevent flecks of rust. As to keeping them in carbolized oil, this to some extent dulls the edge of the needles just as carbolic acid in watery solution does that of scalpels; lysol being a dark solution, the needles are not very easily seen in it; calcium chloride in a closed place to keep the air dry, with the needles lying on a dish near it, produces a curious tarnish, almost like rust; in Fuller's earth or other powders it is difficult to find the smaller needles; in alcohol, unless it is absolute (and absolute alcohol ceases to be absolute very soon), the needles will finally rust. A solution of borax water, as recommended by M. Maréchal, will also rust the needles as soon as the thin plating, which all needles have at first, becomes worn away from usage, exposing the steel beneath. Perhaps keeping needles in liquid petrolatum is almost as good a way as that under discussion; its only objection being the unpleasant oiliness. Calcium chloride in absolute alcohol—thus keeping it absolute—is effective, but comparatively expensive. The same is true of placing a sheet of gelatin in the absolute alcohol, the gelatin by its affinity for water keeping the alcohol absolute. The method now advocated—washing soda dissolved in water to saturation—is inexpensive and satisfactory to the author.

—Gaillard's Medical Jour.

Clinical Medicine

In Charge of Dr. J. J. MORRISSEY.

THE PATHOLOGY OF LOBAR PNEUMONIA AS A BASIS FOR TREATMENT.

At a meeting of the New York Acadmey of Medicine, November 2, 1899, Andrew H. Smith read a paper on this subject. In using the term "pneumonia" he said that he desired to restrict it to the form variously designated as lobar, fibrinous, or croupous, the form which, in typical cases, was ushered in abruptly by chill and fever, and which, after from four to nine days, if the patient was to recover, ended suddenly by crisis. Pneumonia, he says, was not an inflammation of the lung, although pneumonitis could be produced at will in anyone of a great many ways. Inflammation, suppuration, and even gangrene might be produced, but it would not be pneumonia. There was one thing which introduced into the parenchyma of the lung would always produce pneumonia, and that was the pneumococcus. These facts served to enable us to differentiate sharply between pulmonary inflammation and pneumonia. It was not enough to admit the infectious nature of the disease and define pneumonia as an inflammation excited by the presence of a specific parasite. The parasite was unquestionably there, but it did not excite an inflammation. In pneumonia the parenchyma of the lung did not suffer; at most there was a certain amount of disquamation of the epithelium. There was nothing left to represent the results of inflammation. The tremendously active process that had gone on in the lung had vanished, and had left no trace behind it. For this we had to thank the special nutrient circulation provided by nature. At the same time, and in the same area, one could see the action of the right heart completely suspended, and that the left heart going on actively. In the pneumonic lung, the capillaries which were the continuations of the pulmonary artery were completely thrombosed, and this thrombosis extended back to the heart. If the entire lung were involved the thrombosis would extend back into the bifurcation of the pulmonary artery. The blood supply from the bronchial arteries, on the other hand, were completely free from obstruction. In pneumonia we had to deal with a process of germ culture going on in a culture medium, each air cell acting as a tiny test tube, and filled with this culture medium. The complicated manifestations completing the clinical picture of pneumonia were epiphenomena. Two of these epiphenomena were of extreme importance, constituting singly, or together, the chief menace of life, viz.: (1). Infection of the system by toxin formed in the lung, and (2) the embarrassment of the lungs from the exudation in the air cells. From the first arose a host of manifestations dependent upon toxæmia; from the second, we had the ever-present danger of failure of the right heart.

Treatment.—Heretofore the treatment of pneumonia had been far from satisfactory, pneumonia destroying more lives than any two other acute diseases put together. Within the past decade, however, there had seemed to be the dawning of a better era. The problem before us was first of all to arrest or inhibit the growth of the pneumococcus, bearing in mind the peculiarities of the organ in which the disease process took place. It should be remembered that the life of the organism was short, not exceeding ten or twelve days in artificial cultures. Another interesting fact was, that this was one of the most sensitive of all germs, its growth being arrested by very slight changes in its surroundings. If we could impregnate the blood sufficiently with a substance

inimical to the growth of the pneumococcus, there would be a chance of forestalling the local process. The local process was always a spreading one, so that it seemed perfectly feasible to prevent the spread of it to other cells than those first invaded. Long before the microbic theory of pneumonia had been understood, or even thought of, calomel had been a favorite remedy, although given with the idea that it was an antiplastic. The older practitioners rarely had the hardihood to treat a case of pneumonia without a mercurial. In 1878 Dr. Mary Putnam Jacobi had reported the result of an investigation into the action of the so-called "sedative dose" of calomel in pneumonia. The results from this treatment, which had been a favorite one with the late Dr. Leaming, had been quite remarkable. Quinin, though a feeble antagonist to other than malarial germs, was known to have a decidedly beneficial action in pneumonia when given in rather large doses. This was not surprising when one considered how thoroughly this remedy pervaded the whole system. Dr. J. S. Thacher, at his suggestion, had made a number of experiments in the laboratory of the Presbyterian Hospital, regarding the effect of chloroform on the pneumococus; and these had abundantly substantiated what had long been known from clinical observation concerning its powerful influence in pneumonia. Creosote had been highly lauded by a number of observers as a useful remedy in pneumonia. It had been given by the mouth and in enemas. The Carbonate of Creosote had been found to saturate the blood readily without irritating the stomach, and without giving rise to poisonous or other untoward effects. A very remarkable series of seventy-two cases of pneumonia occurring in Austria among the miners had been reported. All of these had been treated with large doses of sodium salicylate—gr. cxxx. daily. All of these patients had recovered, and in not one had the disease terminated by crisis.

A Possible Prophylactic Treatment.—The treatment should be instituted, in all cases of pneumonia, at the earliest possible moment. The occurrence of the chill was a certain indication that a considerable amount of toxin had been already formed in the lung and had been taken into the general circulation. As the disease progressed, one after the other of the air cells would shut off, and in each one of these the germ culture must be allowed to go on. The young, newly formed cocci were the most virulent, as had been proved by laboratory cultures, and it was in the half-filled cells in which the blood was still flowing that these cocci were present in large numbers, and hence it was never too late to begin treatment. Dr. Smith said that, in his opinion, the family physician should instruct his patients to keep in stock some preparation of creosote or a salicylate, and to begin its use immediately upon the first sign of chill or pain in the chest. By this means he believed pneumonia might, in many instances, be prevented from developing. His experience with this comparatively new treatment had been rather limited, but so far it had been encouraging. At one time he had thought well of salicylates, but was now inclined to believe that in the later stages they were depressing, and certainly they were always irritating to the stomach. He now preferred Creosote Carbonate, also known as Creosotal.

Accessory Treatment.—The accessory treatment: (1) Stimulation of the emunctories to carry off the poison; (2) sustaining the heart by the use of cardiac stimulants; (3) the use of vasodilators or venesection; (4) compensation for the loss of respiratory surface by inhalations of oxygen; (5) reduction of the temperature, as by the application of cold to the surface; and (6) relief of the incidental symptoms. When the chief danger to life was mechanical, from obstruction to the circulation, as shown by the labored respiration and the presence of cyanosis, he would give nitro-

glycerine, and not digitalis. If the patient's face could be kept florid, there might be hope, but blue lips were the shadow of death. He infinitely preferred the big pulse, however soft or gaseous, to a tiny thread which the fingers could scarcely discover. Under these conditions he had never known the pulse to become full and slower from the administration of digitalis. Regarding the so-called digitalis treatment the speaker said that the infusion of digitalis used by Putresco did not represent the drug, containing chiefly digitalin and digitonin, and he would hazard the opinion that the good effects obtained from such administrations had been rather from the action on the heart than on the pneumococci.

THE FEE OF THE DOCTOR.

The October number of the Ladies Home Journal contains a very interesting article upon this subject which we hope will be read with considerable profit by a large number of people. It contains, however, some good suggestions whch might well be followed by the doctors if they are to lessen the amount of worry over uncollectable accounts, and increase the amount of their income.

The writer says: "I have often thought that if doctors sent their bills at shorter intervals than they now do, it might mean prompter payment. Except in cases of practiced illness, I have never quite understood why physicians, instead of waiting three, six and sometimes twelve months, should not adopt the commercial method of presenting monthly bills. It is unquestionably a trait in human nature which makes it harder to pay a bill six months after services have been performed, and when, in many cases, those services have slipped from the mind. However, the very fact that the doctor has already waited three or six months should entitle his bill to first or early consideration of payment. If some families kept their grocerymen or butchers waiting for the payment of their bills as they do their doctors, their credit would be soon looked into and regarded with suspicion."

We would like to add to this that the doctor has to pay the tailor, the butcher and the groceryman like anyone else, and no extension of credit is granted. The doctor is not offended by receiving a monthly statement of account from people from whom he buys the necessaries of life, and on the contrary the general public should offer no objections if the doctor adopts business-like methods and also renders his statements monthly. In alleviating pain and suffering, if not in the saving of life, the doctor has certainly rendered services which rightly cannot be estimated by a standard of dollars and cents, and which too often seem greatly disproportionate in value to the size of his fee. Except, as already stated, where the indebtedness is very large in consequence of practical illness, there is no good and sufficient reason why the doctor's bill should not receive the same consideration as those from tradesmen to whom money is paid for something less valuable than life and health. We have always advocated and will continue to advocate the presentation of monthly statements by all physicians to patients who are indebted. No physician who adopts this policy is the loser, but on the contrary gains in every instance.

—Fort Wayne Med. Jour.

CLINICAL SURGERY AND SURGICAL PATHOLOGY.

In Charge of T. H. MANLEY, M. D., New York.

THE OPERATIVE TREATMENT OF HYPERTROPHIED PROSTATE.*

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ABSTRACT OF REMARKS.

Various methods have been proposed for treatment of hypertrophied prostate—viz.:

(a) Do nothing until it becomes troublesome.

(b) Systematic catheterization.

(c) Galvano cautery.

(d) Castration.

(e) Prostatectomy.

(a) This advice is dodging the issue—putting off the evil day.

(b) Continued catheterization, troublesome, disagreeable, certain to lead to cystitis, and often to pyonephrosis from ascending infection. After a few years there is generally a break down in catheter life, and the patient is too weak to stand curative operation.

(c) The galvano-cautery introduced by Bottini in 1876, tried unsuccessfully by surgeons in all parts of the world, has recently been re-introduced by Fundenberg with more practical instruments. Much is now being written about the method, but no careful report of cases followed for a number of years has been made, and we must accept, with some hesitation, the extravagant claims of immediate and everlasting cure made by some writers. There is, however, little doubt that the method may be very successful in some cases.

(d) Castration, introduced by White in 1893, for a time enjoyed widespread popularity, and equally extravagant claims were made for it as a cure all. Many unsuccessful results have taught us that it has limitations of use. Very hard sclerotic prostates are not much affected by castration, and a recent case has shown me that a large median intravesical hypertrophy may be unaffected, although in the same case two large lateral lobes completely atrophied. Pride or vanity will often prevent any but the aged to accept this method, even in extremis.

(e) Prostatectomy has enjoyed an uncertain, vacillating popularity, depending a good deal on the thoroughness of the operation, and the care displayed in selecting cases. In many of the reported cases the operation has been a very incomplete one, merely a biting off of the most prominent projection into the bladder, or the cutting of a trough in the "median bar"—the enlarged lateral lobes, which form the principal source of trouble, being left untouched.

The general acceptance that the median lobe is the chief obstructive factor seems to be very erroneous. A glance at these specimens from cadaver shows that the median bar is a mechanical production—a ridge or fold at the bladder orifice, caused by the downward dislotion of the urethra by the growth of the lateral lobes, and not generally a true hypertrophy—a division, or even excision of this then does not strike at the main source of trouble—the hypertrophied lateral lobes—which have transformed the round urethra into a vertical slit.

A removal of the lateral lobes is therefore generally necessary, and this is best done from a perineal incision—combined with previous suprapubic for exploration and assistance.

The following five cases may illustrate the results of prostatectomy:

Case I.—Aged 53. Prostatic trouble of seven years' duration, but never

*Report of remars made before the Thirteenth Annual Session of the Medical Society of Virginia, at Richmond, Va., October 24-27, 1899.

used catheter. Tremendous intravesical projection of prostate, 2x1x3 inches in size. Pt. very uræmic from retention of five days' duration. Operation—preliminary suprapubic under cocaine. One month later, pt. in good shape, complete enucleation of entire prostate through suprapubic wound. Rapid convalescense. Examined 18 months later. No residual urine; absence of prostate, as felt by rectum; normal micturition; sexual powers normal. Result, perfect.

Case II.—Aged 66. Three years' duration. Chronic retention and catheeterization for five months; uses catheter every two hours. Examination—Patient in bad shape; large dilated, atonic bladder; prostate dense, hard, bilateral enlargement. Prognosis poor, nothing to be expected from castration. Operation, enucleation impossible; large amount of sclerotic prostatic tissue removed by scissors through perineum. Result, immediate, improved; later, unimproved.

Case III.—Aged 64. Occasional retention; catheterization; residual 90 c. c.; bladder tonicity fair; micturition every hour; considerable arterio-sclerosis; general health fair; prostate hug, elastic, bilateral hypertrophy, left much larger than right. Combined operation, complete removal of both lobes through perineum. Result, one year after, almost normal micturition; residual 40 c. c.; has gained 30 pounds.

Case IV.—Aged 55; duration six years. Admitted to Johns Hopkins Hospital with retention and dribbling uræmia; prostate large, soft bilateral and small median hypertrophy. Operation, suprapubic incision for drainage. Two months later, pt. in good shape. Combined operation, complete enucleation of three lobes through perineal wound; rapid healing. Result, splendid; normal micturition; sexual functions perfect; better 16 months later; doing well.

Case V.—Aged 58; eight years' duration, requiring catheterization for past eight months; bladder tonicity fair; general condition only fair; arterio-sclerosis marked; prostate moderately large; rectal enlargement; large, collar-like intravesical hypertrophy. Operation, suprapubic removal of "collar"; attempt to remove lateral lobes through bladder unsuccessful. Recent case, result uncertain; but will probably not be perfectly successful on account of remaining lateral lobes.

Remarks—Three cases, splendid result. Case II unsuitable for enucleation; prognosis bad for any procedure;electro cautery probably most appropriate. Case V may be classed as not fully successful from partially imperfect operation; lateral lobes should have been removed through perineum also without opening bladder.

The electrocautery often gives immediate and splendid results, but unfortunately we do not know how permanent they are. Nevertheless, there is a large class of cases too feeble to stand prostatectomy or even general anæsthesia, for whom the cautery operation, performed under local anæsthesia, promises much. It is probably alone applicable for hard sclerotic prostates, but is certainly not suitable for cases with marked intravesical projections, as Case I. A recent case of an old man, in bad shape, with very large nodular prostate, unsuitable for either castration or enucleation, which was easily cauterized under local anæsthesia (cocaine) without pain or shock, and followed by immediate improvement, shows applicability of the method to such cases.

Conclusions.—Catheterization useful, but to be avoided if possible.

Castration, successful in many cases; unsuccessful in dense sclerotic hypertrophies, and large intravesical growths, generally only acceptable to patient when in bad shape; mortality then high.

Prostatectomy performed early; operation of choice; complete enucleation of all lobes generally required, too serious an operation for late cases in bad shape.

Galvano-cautery; applicable in bad

cases of lateral and slight median hypertrophy; inapplicable in large intravesical projections; immediate results, splendid; permanency, as yet unproven.

—Virginia Medical Semi Monthly.

A BLACK-LIST OF NON-PAYING PATIENTS.

The physicians of West Chester, a near suburb of Philadelphia, are reported to have formed a mutual agreement by which it is proposed to keep a general "black-list" of people who will not pay their doctor's bills. It would seem that West Chester suffers to a great degree from that very common pandemic, the leading symptom of which is disinclination on the part of the individual to remunerate his medical attendant, and that the doctors of this town hereafter agree to refuse medical services to all persons who by their past actions are classed among those able but unwilling to pay just accounts for physicians' attendance.

—Medical News.

THE LONG SUFFERING OF MEDICAL MEN.

Scarcely anyone outside the profession can realize the extent to which, in these latter days, the personal solicitation of medical men by representatives of book publishers and drug firms has progressed. Most of us, from a desire not to be uncivil, have thus far submitted to the imposition with what grace we could summon, causing thereby a vast increase in the number of agents, a growing consciousness on their part of owning the entire profession, an office chokeful of useless samples of every possible and impossible formula, and a damaging loss of the physician's time. We believe that drug men should confine themselves and their advertising matter to the press and the mails. It is trying enough to one's temper to receive by mail a sealed advertisement, but when we are desired to sit meekly for a quarter or half hour every day and listen to a glib discourse on the chemistry of foodstuffs or the predigestion of milk, or the destruction of bacteria by a patented germicide, we think it time to rebel. Many drug firms confess, if questioned, that they maintain at a loss the practice of visiting the houses of physicians and leaving samples of medicines and appliances; they feel, however, that they must maintain the nuisance in order to keep the pace set by business rivals. The following notice was recently found in the hallway of a physician of large practice in this city. He claimed to have been 'driven to it by persecution:"

"Dr. ———— positively refuses to be interviewed by representatives of any book-publishing firm, or the makers or agents of any line of drugs, proprietary preparations, or surgical dressings."

We simply quote this as it stands, and leave our brethren to meditate!

—Gaillard's Med. Jour.

PUBLISHER'S MISCELLANY.

TREATMENT OF A CASE OF FACIAL NEURALGIA.

Bernays ("Report of a Surgical Clinic") cites a peculiarly obstinate case of facial neuralgia with treatment. The patient was a lady, aged fifty years, who showed a good family history and whose previous health was also good. The trouble began with a severe neuralgic toothache of her lower right molars, and was paroxysmal at first, but after two months became continuous. The paroxysms generally occurred in the early morning, and entailed much acute suffering. The pain was relieved by biting strongly upon some firm object, but returned immediately when the pressure was removed. A touch of anything cold or hot promptly excited a paroxysm. A moderate heat when sustained produced the opposite effect. In the effort to afford relief four molars were extracted, but without success. The patient strenuously held out against narcotics in any form throughout the entire course of the disease. Antikamnia in ten grain doses (two five-grain tablets) was found efficient as an obtundant, and was relied upon exclusively. Eight weeks after section of the nerve, when the report was written, there had been no return of her former trouble in any degree.

—The Med. News, Jan. 13, 1900.

RECOVERY FROM LA GRIPPE.

One of the most unpleasant features of la grippe is the prolonged period of convalescence, sometimes extending over several months, during which the patient struggles to regain his former vigor. This struggle may be greatly shortened by paying especial attention to promoting the vitality of the tissues and improving the quality of the blood. During la grippe epidemics most cases have been especially characterized by disturbances of the gastro-intestinal tract and after the patient has recovered from the dangerous effects of the disease he is often left in a severe dyspeptic condition.

In such cases physicians find Allouez Magnesia water of great value as its curative action on the digestive organs is very prompt and causes no disturbance or reaction which is not the case with drug treatment. It is highly agreeable to the palate and possesses the rare ability to "stay down" even when the lightest nourishment taken provokes the sensitive stomach.

GALL STONE COLIC—ITS TREATMENT.

(Abstract of an article by Lincoln Phillips, M. D., Cincinnati, in the New York Medical Century.)

There is to my mind the possibility of making a cure without the removal of the stones. Given a case where the symptoms are due to an irritation of the gall bladder by the presence of stones, the employment of remedies which soothe and heal the inflamed mucous membrane may effect a cure for the remainder of the patient's life because the friction may never again set up inflammation.

To relieve the painful colic, hot applications are good. Sulphate of morphis, glycerine and olive oil have their warm advocates as well as phosphate of soda especially where the patient's condition indicates the presence of uric and lithic acids in excess. In parallel cases Allouez magnesia water would be extremely beneficial. The elimination of the acid follows the treatment.

The formation of new calculus stones thus being prevented the old ones gradually disintegrate and pass away,

or becoming smaller the gall bladder accustoms itself to their presence without causing future undue disturbance. Under these circumstances the patient may have an occasional light attack of colic even while a cure is being effected.

J. J. Grant, M. D., Monticello, Fla., says: "I find nothing in the materia medica to equal Aletris Cordial in uterine diseases. I have used it in a very obstinate case, which outstood several important remedies. When I put the patient on Aletris Cordial every diseased symptom disappeared in a week's trial. I have used it in several cases, and can, therefore, say that it is an active and powerful agent for diseases of the womb."

Vapor Massage is rapidly increasing in favor with the medical profession as its great value in the treatment of affections of the nose, throat, middle ear, bronchial tubes and lungs is more widely known. Remarkably satisfactory results have been reported by many prominent observers.

Vapor Massage consists in the application of nebulized vapor under pressure with more or less frequent interruptions producing a vibratory effect which acts favorably upon the circulation and other vital processes in the involved areas, just as manual massage acts upon the superficial tissues, besides applying suitable medicinal agents to the mucous membrane.

This very successful method of treatment was first introduced several years since through the invention of an instrument which is known as the Globe Multinebulizer, consisting of a series of nebulizers which communicate with a central storage chamber having a specially constructed valve at the outlet, by means of which the nebulized vapor can be stored under pressure and delivered in a constant or intermittent current at any desired pressure.

Since the value of this method of treatment has been established beyond question, numerous imitations of the original instrument have appeared. As usual, they are of questionable quality and since success or failure depends very largely upon the reliability of the apparatus used, those who wish to employ this method in their practice should be careful to select the original device (The Globe Multinebulizer), which possesses many valuable features not found in any of its imitations.

Full information can be had by writing

The Globe Manufacturing Co.,
Battle Creek, Mich.

DR. W. C. GLIDDEN, FORMERLY OF BELOIT, KANSAS, NOW OF DEKALB, ILL., REPORTS HIS OWN EXPERIENCE WITH ALLOUEZ MAGNESIA WATER IN DIABETES MELLITUS.

"Seven years ago I became afflicted with diabetes mellitus. I tried about everything that I heard of, or read of, in medical literature, or that any physician had ever tried, with even a hope that it was helping his patient; but for more than four years I gradually grew worse, until I excreted more than 4,000 grains of sugar daily.

"In November, 1894, a paralytic condition set in, beginning at the ends of the fingers and toes and extending toward the trunk, one joint at a time, until in about two months I could just stand, and had but slight sensation in my fingers, when I came across an Allouez booklet. Had no faith in its claims, in fact, said I knew it would not help me; but that was the straw, and so I, the drowning man, caught at it. In twenty-four hours after drinking the first glass of Allouez, the specific gravity showed only 1019, where it had not been below 1038 for two years, and often as high as 1049.

"From the first day the specific gravity ranged from 1019 to 1024, while the quantity of urine greatly de-

creased. In less than three months the amount of sugar was down to 200 to 300 grains per day, and occasionally a specimen would show no trace of sugar, by the Haines test.

"All thirst, which had been almost unbearable, disappeared after the first week. In five months I could walk as well as ever. In a year, the numbness was gone, only when I occasionally overtaxed the members. I am still drinking the water, and gaining in flesh, strength and activity. Sugar is still present in traces, but not all the time. Had to diet, of course, and still do.

"My paralysis was simply a giving out of the nerve force from malnutrition, caused by the loss that should have been supplied by the sugar, had it been assimilated. Thus it first showed itself in the terminal nerves.

"There can be no doubt that in three or four months more, without the water, this condition would have reached the vital organs, when death must have ensued; I can truly say that Allouez Magnesia Water has rescued me from certain death."

THE PASSING AWAY OF THE PESSARY.

Under this heading the International Journal of Surgery for December editorially says: "There was a time within the memory of most of us when, if a gynecologist failed to devise a new pessary, his attainments in his specialty were considered as rather questionable. That they are potent for harm in unskilled hands is perfectly true, still, the same might be said of pretty nearly every therapeutic substance or device of which we make use. The instrument dealers tell us that the demand for pessaries is unquestionably diminishing. Twenty years ago the budding gynecologist began with an armamentarium composed chiefly of cotton for tampons, and of a large and varied assortment of pessaries. He soon realized that in a majority of cases the best that could be said for them was that they were temporary makeshifts, and now and then when he was called upon to remove a long-forgotten pessary that had made raw and bleeding grooves within a vagina and nearly disappeared within its folds, he began to doubt that it was the right thing in the right place."

The occasion for using a pessary was usually to act as a support for a displaced uterus caused by being engorged with blood and thus throwing upon the broad ligament a weight which it could not sustain. The modern treatment of this condition is to use a remedy such as Micajah's Medicated Uterine Wafers, which will deplete the congested uterus and the surrounding mucous membranes of their blood supply, add tone to the tissues and thus relieve the broad ligament of its unusual burden. Dr. Wheeler, of Troy, N. Y., says: "For the past five years I have not failed to cure a case of Prolapsus Uteri with Micajah's Medicated Uterine Wafers and have discarded all pessaries."

FLYING FROM FROST TO FLOWERS.

First Trip of the New York and Florida Limited.

When the New York and Florida Limited rolled out of Jersey City on January 16th, for its first flight of the winter, the season of migration to the sunny south-land was formally and brilliantly opened. This edition de luxe of travel operated by the Southern Railway System and connections, was greatly admired by crowds gathered at the start. When the last fortunate passengers arrived on the 12.40 ferries from New York, and when at 3.14 p. m. the magnificent train flashed out from Broad Street Station, Philadelphia, for the magical swiftness of the change from Winter's icy grip to th balmy summer skies of Florida in one day of travel.

The train which began this regular winter service on January 16th will be run daily, except Sunday, until the early part of April, and for the inaugural trip all the accommodations

available had been engaged long in advance. "No wonder it's filled up every day of the season," said an old railroad man yesterday. "That New York and Florida Limited is all the advertisement it wants itself. Just look at it and go aboard of it once. That's the most luxurious train in the world, and I've looked over most of the crack flyers."

The train which aroused the veteran's expert's highest admiration was composed of Pullman Compartment cars, Drawing-room Sleepers, Library, Dining and Observation cars, furnished and finished with unique taste and richness. In the Compartment cars, each was complete in itself, to be used singly or en suite; while the Drawing-room Sleepers were the ones used by President McKinley and party in their recent tours. The Library suggested the reading-room of a perfectly appointed club, with easy chair and sofas, writing desks, and the latest periodicals. The Observation car at the end of the train, with sides and ends of plate glass, and a spacious enclosed platform was a veritable sun-parlor with piazza attachment. From bath-rooms to barber shop nothing was lacking to replace every comfort and convenience left behind by the pilgrim, in house, hotel, or club, no matter how excellently appointed.

This train is whirled through solid, a flying palace, between New York and St. Augustine, excepting one Pullman Drawing-room Sleeping car which leaves the train at Blackville, S. C., and goes to Aiken and Augusta and one Pullman Drawing-room sleeper which leaves the train at Jacksonville and goes through to Tampa.

To leave New York at lunch hour of one day, by the New York and Florida Limited, and be strolling in the palm gardens of St. Augustine a couple of hours before one needs to dress for dinner the next afternoon, is to leave discounted the fairy tale of the "Flying Carpet."

From January to May, in what is scarcely more than an over night flight is the calender of steam racing with the calender of the sun. The seasons seems to be flashed by as if the round were completed in a day, instead of a year. Yet Florida is four or five months distant in air and sky and sea and vernal, caressing loveliness. St. Augustine, whither the pilgrim is borne in his home on spinning wheels, is an ideal entrance into the charm of the Florida winter time. The picturesque atmosphere of old Spain lingers yet after three stony centuries, in the crooked streets, while trim Northern maidens play golf around the gray and ancient fort and city wall, and stroll about the palatial hotels which are world famous for luxury and harmonious splendor of architecture.

From Jacksonville or St. Augustine, travelers by the New York and Florida Limited are able to reach any of the attractive regions of the sea-washed and sun-bathed peninsula, to Tampa and the West Coast, and further on to Key West and Havana, or down the East Coast to the tropical paradise of the Indian River and Lake Worth with the superb chain of hotels, and from Palm Beach across to Nassau, or direct from Miami to Havana. The interior of Florida also is filled with popular and charming resorts by blue lakes and pine forests and mango groves, which are reached soonest and most pleasantly by the Southern Railway System. Florida draws more winter birds of passage to her witcheries every year and in many favored regions the hotel accommodations had to be notably increased since last year. What is called cold weather in that latitude is never more than a day or two of bracing air, quickly forgotten in the flooding sunshine and soft winds which calls to the out-of-door life of the Northern summer. Whatever the habits or bent of occupation, Florida in these days fails not to satisfy bountifully, whether it be hunting, fishing, sailing, bathing, golf, tennis, bicycling, loafing, the society life and color of Bar Harbor or Newport or the pursuit of health and strength for their own sake.

The New York and Florida Limited

leaving Philadelphia daily at 3.14 p. m. flies to and fro, a mighty shuttlecock of steel, weaving the seasons to its will and setting at defiance all the calenders invented by the wise men; from winter to spring, to summer in a day, and the transformation wrought while on the most magnificent train in the world. What a theme for a fairy story it would have been a few generations ago.

SALOPHEN IN ACUTE ARTICULAR RHEUMATISM.

To avoid a possible recurrence of the symptoms of this disease, even when salicylic acid had been employed for a few days, Mosler (Deutsche Med. Woch.) resorts to the use of salophen in doses of 30 to 45 grains per day, after the acute symptoms, such as pains, swelling of the joints, and fever, have been set aside by the previous use of the salicylate. The salophen thus employed must be used for several days. According to the author, the drug is free from any deleterious effect on the stomach or the nervous system; he administered as large doses as one to two drachms daily, for several days, without any harm. It is also useful in rheumatic chorea, and serves as a reliable analgesic and antineuralgic.

A NEW PORTABLE ELECTRIC OUTFIT.

BY GUSTAVUS M. BLECH, A. B., M. D., CHICAGO.

Electricity as a therapeutic agent, while quite popular with a few specialists and wealthy practitioners, is employed by the majority of general practitioners with no scientific precision, because of lack of suitable apparatus. The results are poor, for to obtain good results good apparatus is necessary. It is, therefore, for this reason that electricity is decried by many as a valueless agent, while, in reality, it is a very valuable means of curing a large number of nervous and muscular affections. The idea prevails among many practitioners that electricity can be administered scientifically only by means of large, stationary and expensive "machines." The price and impossibility of moving the batteries from the office to the bedside of the patient have proven objectionable features, preventing the general introduction and practice of electrotherapeutics. It is perhaps of interest to know that the most renowned specialists in Europe (for example, Dr. Erb, who has become famous through his lectures and writings on electropathy) use, in their private practice, small portable batteries. Of course, the term "small portable" is not to be confounded with the so-called family batteries for self-treatment, which, as a rule, are not worth the material used on them. The erroneous idea that large liquid cells yield more electromotive force and amperage than small dry cells has prejudiced the profession against anything but stationary cells. We know to-day that the size of the cell has nothing to do with its electro-motive force and that a small dry cell about as large as a vaginal speculum will do more for a longer period of time than (for example) a Laclede sal ammoniac cell. The cost of renewing a dry cell is not larger than the refilling and keeping in good order of large acid cells.

Knowing these facts, and to overcome the objections mentioned, with the co-operation of the manager of the Electro-Medical Manufacturing Co., I have devised a combination battery, which, while cheap, admits of the scientific administration of galvanism, faradism, the practice of electrolysis and the illumination of small lamps for diagnostic purpose. The following illustration gives a fair idea of its construction:

The battery has twenty-four cells, connected to the galvanic circle, yielding 33 volts. The faradic current produced in the coil is even and smooth, but can also be regulated with Lindstrom's rheotome to from 100 to about 4,000 interruptions per minute. There is a selecting switch for primary and secondary currents. By means of a switch connection is made with a strongly built milliamperemeter for the measuring of the galvanic current. Four extra large cells are connected to a German silver wire rheostat for the purpose of running a small incandescent lamp (twenty-five hours) for the illumination of cavities—throat, vagina, rectum, etc.

The battery can be used for electrolytic work, such as the removal of superfluous hair, warts, moles, etc., and has for that purpose an electric needle and holder, epilation forceps and magnifying glass. To the battery are added several sponge and metal electrodes, one roller electrode, one metallic brush and one interrupting handle, all which are fastened between strong clamps to the inner side of the cover.